

CLAIMS

What is claimed is:

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1 1. In a client system, a method of operation comprising
2 caching a plurality of advertisements of various time lengths; and
3 causing one or more of said cached advertisements to be synchronously
4 rendered during an advertisement time slot of a streaming program, replacing
5 advertisements, if any, included in the streaming program for the advertisement time
6 slot.

1 2. The method of claim 1, wherein said caching of a plurality of advertisements
2 of various time lengths comprises providing an advertisement publisher with a
3 profile of the user of client system.

1 3. The method of claim 2, wherein said profile of the user of client system
2 comprises selected ones of a plurality of demographic and interest characteristics of
3 the user.

1 4. The method of claim 2, wherein said profile of the user of client system
2 comprises geographic information of the user.

1 5. The method of claim 2, wherein the method further comprises receiving said
2 advertisements of various time lengths from the advertisement publisher.

1 6. The method of claim 2, wherein the method further comprises receiving
2 locations of said advertisements of various time lengths from the advertisement
3 publisher, and retrieving said advertisements of various time lengths from said
4 locations.

1 7. The method of claim 1, wherein said caching of a plurality of advertisements
2 of various time lengths comprises adaptively retrieving said advertisements in a
3 manner that is consistent with a quality objective for receiving and rendering said
4 streaming program on said client system.

1 8. The method of claim 7, wherein said adaptive retrieving comprises monitoring
2 one or more performance metrics that are indicative of whether the client system is
3 meeting said performance objective for receiving and rendering said streaming
4 program.

1 9. The method of claim 7, wherein said adaptive retrieving comprises adjusting
2 at least one of an operational bit rate and an operational pulse rate.

1 10. The method of claim 1, wherein said caching of a plurality of advertisements
2 of various time lengths comprises caching at least a selected one of 30 second
3 advertisements and 60 second advertisements.

1 11. The method of claim 1, wherein the method further comprises receiving a
2 notification of the advertisement time slot, including the advertisement time slot's
3 time length.

1 12. The method of claim 11, wherein said receiving of a notification of the
2 advertisement time slot comprises receiving the notification from a player of the
3 client system receiving and rendering the streaming program.

1 13. The method of claim 11, wherein said receiving of a notification of the
2 advertisement time slot comprises receiving the notification from an operating
3 system service receiving a streaming of event notifications companion to the
4 streamig program on behalf of a player of the client system.

1 14. The method of claim 11, wherein said receiving of a notification of the
2 advertisement time slot comprises receiving the notification from a broadcaster of
3 the streaming program.

1 15. The method of claim 1, wherein said causing of one or more of said cached
2 advertisements to be synchronously rendered during the advertisement time slot
3 comprises selecting one or more of said cached advertisements with their combined
4 total time length at least equals to said advertisement time slot's time length.

1 16. The method of claim 15, wherein said causing of one or more of said cached
2 advertisements to be synchronously rendered during the advertisement time slot
3 further comprises blocking output of the streaming program for the duration of said
4 advertisement time slot, and rendering the selected advertisements instead.

1 17. The method of claim 1, wherein the method further comprises notifying a
2 publisher of an advertisement when rendering commences on the client system for
3 the advertisement.

1 18. The method of claim 1, wherein the method further comprises notifying a
2 publisher of an advertisement when rendering ceases on the client system for the
3 advertisement.

1 19. The method of claim 1, wherein the streaming program is a streaming audio
2 program, and the advertisements are audio advertisements.

1 20. The method of claim 1, wherein the streaming program is a streaming radio
2 program, and the advertisements are audio advertisements.

1 21. The method of claim 1, wherein the streaming program is a streaming multi-
2 media program, and the advertisements are multi-media advertisements.

1 22. The method of claim 1, wherein the streaming program is a streaming
2 television program, and the advertisements are television advertisements.

1 23. The method of claim 1, wherein the method further comprises receiving the
2 streaming program from a broadcaster and rendering the streaming program on said
3 client system.

1 24. The method of claim 23, wherein the method further comprises receiving a
2 stream of event notifications companion to the streaming program from the
3 broadcaster and relaying notifications of advertisement time slots to an
4 advertisement module responsible for performing said caching of advertisements
5 and said causing of advertisements to be rendered.

1 25. An apparatus comprising:

2 storage medium having stored therein programming instructions designed to
3 enable the apparatus to

4 cache a plurality of advertisements of various time lengths, and
5 synchronously render one or more of said cached advertisements
6 during an advertisement time slot of a streaming program, to
7 effectively substitute for advertisements, if any, included in said
8 streaming program for rendering during said advertisement time slot;
9 and

10 at least one processor coupled with the storage medium to execute the
11 programming instructions.

1 26. The apparatus of claim 25, wherein said programming instructions are
2 designed to enable the apparatus to include as part of the performance of said
3 caching of a plurality of advertisements of various time lengths, provision of an
4 advertisement publisher with a profile of the user of client system.

1 27. The apparatus of claim 26, wherein said profile of the user of client system
2 comprises selected ones of a plurality of demographic and interest characteristics of
3 the user.

1 28. The apparatus of claim 26, wherein said profile of the user of client system
2 comprises geographic information of the user.

1 29. The apparatus of claim 26, wherein said programming instructions are
2 designed to enable the apparatus to receive said advertisements of various time
3 lengths from the advertisement publisher.

1 30. The apparatus of claim 26, wherein said programming instructions are
2 designed to enable the apparatus to receive locations of said advertisements of
3 various time lengths from the advertisement publisher, and retrieve said
4 advertisements of various time lengths from said locations.

1 31. The apparatus of claim 25, wherein said programming instructions are
2 designed to enable the apparatus to include as part of the performance of said
3 caching of a plurality of advertisements of various time lengths, adaptive retrieval of
4 said advertisements in a manner that is consistent with a quality objective for
5 receiving and rendering said streaming program on said client system.

1 32. The apparatus of claim 31, wherein said programming instructions are
2 designed to enable the apparatus to include as part of the performance of said
3 adaptive retrieving, monitoring of one or more performance metrics that are
4 indicative of whether the client system is meeting said performance objective for
5 receiving and rendering said streaming program.

1 33. The apparatus of claim 31, wherein said programming instructions are
2 designed to enable the apparatus to include as part of the performance of said
3 adaptive retrieving, adjustment of at least one of an operational bit rate, and an
4 operational pulse rate.

1 34. The apparatus of claim 25, wherein said programming instructions are
2 designed to enable the apparatus to include as part of the performance of said
3 caching of a plurality of advertisements of various time lengths, caching of at least a
4 selected one of 30 seconds advertisements and 60 seconds advertisements.

1 35. The apparatus of claim 25, wherein said programming instructions are further
2 designed to enable the apparatus to receive a notification of the advertisement time
3 slot, including the advertisement time slot's time length.

1 36. The apparatus of claim 35, wherein said programming instructions are
2 designed to enable the apparatus to include as part of the performance of said
3 receiving of a notification of the advertisement time slot, by having an advertisement
4 module receives the notification from a player of the apparatus receiving and
5 rendering the streaming program.

1 37. The apparatus of claim 35, wherein said programming instructions are
2 designed to enable the apparatus to include as part of the performance of said
3 receiving of a notification of the advertisement time slot, by having an advertisement
4 module receive the notification from an operating system service, of the apparatus
5 receiving a streaming of event notifications companion to the streamig program on
6 behalf of a player of the streaming program of the apparatus.

1 38. The apparatus of claim 35, wherein said programming instructions are
2 designed to enable the apparatus to include as part of the performance of said
3 receiving of a notification of the advertisement time slot, receipt of the notification
4 from a broadcaster of the streaming program.

1 39. The apparatus of claim 25, wherein said programming instructions are
2 designed to enable the apparatus to include as part of the performance of said
3 synchronous rendering of one or more of said cached advertisements during the
4 advertisement time slot, selection of one or more of said cached advertisements
5 with their combined total time length at least equals to said advertisement time slot's
6 time length.

1 40. The apparatus of claim 39, wherein said programming instructions are
2 designed to enable the apparatus to include as part of the performance of said
3 synchronously rendering of one or more of said cached advertisements during the
4 advertisement time slot, blocking of output of the streaming program for the duration
5 of said advertisement time slot, and rendering of the selected advertisements
6 instead.

1 41. The apparatus of claim 25, wherein said programming instructions are further
2 designed to enable the apparatus to notify a publisher of an advertisement when
3 rendering commences on the client system for the advertisement.

1 42. The apparatus of claim 25, wherein said programming instructions are
2 designed to enable the apparatus to notify a publisher of an advertisement when
3 rendering ceases on the client system for the advertisement.

1 43. The apparatus of claim 25, wherein the streaming program is a streaming
2 audio program, and the advertisements are audio advertisements.

1 44. The apparatus of claim 25, wherein the streaming program is a streaming
2 radio program, and the advertisements are audio advertisements.

1 45. The apparatus of claim 25, wherein the streaming program is a streaming
2 multi-media program, and the advertisements are multi-media advertisements.

1 46. The apparatus of claim 25, wherein the streaming program is a streaming
2 television program, and the advertisements are television advertisements.

1 47. The apparatus of claim 25, wherein said programming instructions are
2 designed to enable the apparatus to receive the streaming program from a
3 broadcaster and render the streaming program on said apparatus.

1 48. The apparatus of claim 47, wherein said programming instructions are
2 designed to enable the apparatus to receive a stream of event notifications
3 companion to the streaming program from the broadcaster and relaying notifications
4 of advertisement time slots to an advertisement module of the apparatus
5 responsible for performing said caching and synchronous rendering of
6 advertisements.

1 49. A system comprising:

2 first server providing at least one of advertisements of various time lengths,
3 and locations of advertisements of various time lengths to a client;

4 second server providing a streaming program to said client, said streaming
5 program having one or more advertisement time slots; and

6 said client coupled with the first and second servers to cache said
7 advertisements of various time lengths, and synchronously render one or more of
8 said cached advertisements during a advertisement time slot to effectively substitute
9 for advertisements, if any, included in said streaming program for rendering during
10 said advertisement time slot.

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1 50. The system of claim 49, wherein said client is equipped to adaptively request
2 and retrieve said advertisements of various time lengths in a manner that is
3 consistent with a quality objective for receiving and rendering said streaming
4 program on said client.

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1 51. The system of claim 50, wherein said client is equipped to monitor one or
2 more performance metrics that are indicative of whether the client is meeting said
3 performance objective for receiving and rendering said streaming program.

1 52. The system of claim 50, wherein said client is equipped to adjust at least one
2 of an operational bit rate, and an operational pulse rate.

1 53. The system of claim 49, wherein said client is equipped to provide a third
2 server coupled with the client, a user profile of a user of the client.

1 54. The system of claim 49, wherein said client is equipped to notify a third server
2 when rendering commences on the client for an advertisement.

